

Appendix E

Emissions of Energy-Related Carbon Dioxide in the United States, 1949-2001

This appendix presents estimates of U.S. carbon dioxide emissions for the period 1949-2001. U.S. energy data have undergone a number of changes over the years. The estimates are divided into three periods as outlined below:

- **1989-2001.** The emissions estimates for this period were developed using the methods and sources described in this report. As this is the first year that the EIA has included Independent Power Producers whose primary business is the generation of electricity in the Electric Power Sector, the *Annual Energy Review* is used for the time period from 1989 to 2001 as this is the first integrated data series to incorporate these changes and the only available at the time of publication.¹ The State Energy Data Report will follow this new data structure in the 2003 report that will include data for 2001 and earlier. When this series is available, it will be used for this report.
- **1960-1988.** Before 1980, EIA did not maintain a detailed accounting of carbon sequestration due to nonfuel use of fossil fuels. Hence, the data for industrial sector petroleum use, particularly in the category "other petroleum," are more accurate in the period 1980 through 1988 than they are in prior years. EIA has also not attempted to develop annual emissions coefficients for fuels in use before 1980, therefore the estimates do not reflect any changes in fuel quality that may have occurred prior to 1980. The energy data for this period are drawn from the database of the *State Energy Data Report*.²
- **1949-1959.** EIA has made no attempt to distinguish between residential and commercial energy consumption for historical data earlier than 1960. To provide consistent estimates for this appendix, the combined data for residential and commercial energy consumption have been prorated by fuel according to the ratio of consumption in 1960. Composite sectoral petroleum emissions factors are used for this period, based on 1960-weighted petroleum products emissions. The energy data for this period are also drawn from the *Annual Energy Review*.

¹Energy Information Administration, *Annual Energy Review 2001*, DOE/EIA-0384(2001) (Washington, DC, November 2002), Web site www.eia.doe.gov/emeu/aer/contents.html.

²Energy Information Administration, *State Energy Data Report 1997*, DOE/EIA-0214(97) (Washington, DC, September 1999), pp. 21-26, Web site www.eia.doe.gov/emeu/sep/states.html.

